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Seft-Monitoring and Attitude Polarization: Individual Differences in the Role of Belief Consistency and Belief Confidence in the Mere-Thought Effect

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SELF-MONITORING AND ATTITUDE POLARIZATION: INDIVIDUAL DIFFERENCES IN THE ROLE OF BELIEF CONSISTENCY AND BELIEF CONFIDENCE IN THE MERE-THOUGHT EFFECT

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Dedication

I would like to dedicate my thesis work to my husband, Jossias for his encouragement, love, and support. He has inspired me to move forward through many intense hours of academia, research, and writing. This dedication also goes to my mother, Percy for always believing in my academic goals and encouraging me to do better.

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Abstract

The mere thought effect is the tendency for favorable attitudes to become more favorable and unfavorable attitudes to become more unfavorable following thought (Tesser, 1978). Changes in belief-consistency and belief-confidence mediate this effect (Tesser, Martin, & Mendolia, 1995). However, there are self-monitoring differences in the extent to which people are driven by consistency in their beliefs (Fuglestad & Snyder, 2009; Snyder, 1974). It was predicted that mere-thought and self-monitoring will interactively influence attitude polarization. We also hypothesized that the interactive effects of mere-thought and self-monitoring on attitude polarization will be mediated by belief-consistency and belief-confidence. After indicating their initial attitudes about capital punishment, participants were randomly assigned to two different opportunities for thought (i.e., 60s or 180s condition) to list all beliefs about capital punishment. Participants independently responded to the 25-item Self-Monitoring Scale (Snyder, 1974) and a measure on belief-confidence. As predicted, there was a marginally reliable significant interaction between mere-thought and self-monitoring. Low self-monitors compared to high self-monitors demonstrated more polarized attitudes when giving them more time to think about a target issue. As predicted, after controlling for belief-consistency and belief-confidence, the interaction between opportunity for thought and self-monitoring was attenuated. Limitations (i.e., problem with directionality, third variable problem, and threats to statistical validity) and suggestions for future research (i.e., conditions high self-monitors might exhibit more attitude polarization and exploring additional personality/situational moderators) were discussed.

Keywords: mere-thought effect, attitude polarization, self-monitoring, belief-consistency, belief-confidence

Self-Monitoring and Attitude Polarization: Individual Differences in the Role of Belief Consistency and Belief Confidence in the Mere-Thought Effect

Individuals hold different attitudes toward a variety of issues and objects. For example, a current political issue mentioned in the news is the legalization of same-sex marriage in all 50 states. Imagine hypothetically browsing through your social networking website (e.g., Facebook page) and you see a young lady write a post about same-sex marriage. Another follower leaves a comment stating that same-sex marriage is a problem and soon the government will allow more than two people (polygamy) to marry. After taking a few minutes to think, the follower who stated an unfavorable attitude toward same-sex marriage then left another comment with capitalized letters, "ALLOWING SAME-SEX MARRIAGE WILL DESTROY THIS WORLD, SOON ADULTS WILL BE ALLOWED TO MARRY MINORS." What causes an individual's attitude to become polarized after just a few minutes of reflecting on a particular issue? One answer to this question involves the effects of mere-thought.

Mere-Thought Effect

The process through which merely thinking about a stimulus (e.g., issue or object) strengthens attitudes is called attitude polarization (Tesser, 1978; Tesser, Martin, & Mendolia, 1995). In other words, favorable attitudes become more favorable and unfavorable attitudes become more unfavorable with mere-thought. Previous researchers have found that there is a linear relationship between the amount of thought and degree of attitude polarization. For example, Tesser and Conlee (1975) gave participants different amounts of time to think about an attitude object and found that participants who spent more time thinking about some social issue increased their likelihood of having polarized

attitudes. Other researchers have also established a linear relationship between the amounts of time spent thinking about an attitude object and the amount of subsequent attitude polarization (e.g., Leone, 1984).

During mere-thought, people polarize their attitudes about other people, social issues, art, fashion, sports, and feared objects or events. In a recent study, attitudes on capital punishment were strengthened for participants who thought longer about this issue (Clarkson, Tormala, & Leone, 2011). In another study, Sadler and Tesser (1973) found that when given an opportunity to think about a likable partner, participants who were given time to think liked them more than did participants in a distraction condition. However, when given an opportunity to think about a dislikable partner, participants who were given time to think liked them less than did participants in a distraction condition (Sadler & Tesser, 1973).

Macro-Level Processes. There are two macro-level processes involved in the mere-thought effect (Tesser, 1978; Tesser et al., 1995). The first macro-process consists of associations between mere-thought and (a) belief-consistency and (b) belief-confidence. The second macro-process entails associations between attitude polarization (i.e., affect/feelings) and (a) belief-consistency and (b) belief-confidence.

There is evidence that during thought process, people change the beliefs they have about an attitude object (for a review of the literature, see Tesser, 1978; Tesser et al., 1995). As individuals have more time to think about an attitude object, the more they generate attitude consistent beliefs that, in turn, polarize their attitudes (Clarkson et al., 2011). Beliefs are considered consistent when positive beliefs are correlated with initial favorable attitudes and negative beliefs are correlated with initial unfavorable attitudes

(Bruvold, 1972). Leone (1984) found a positive relationship between duration of thought (i.e., in a constrained and unconstrained thought method about a phobic object) and the strength of beliefs (i.e., individuals with increasingly strong beliefs were able to cope with a phobic object). In a different study, participants who established high belief consistency and were given a relevant essay compared to those with low belief consistency had greater attitude polarization (Chaiken & Yates, 1985). Moreover, changes in belief consistency and belief confidence mediated the effect of mere-thought on attitude polarization (Clarkson et al., 2011).

There is also evidence of a linear relationship between thought confidence and attitudes (Brinol & Petty, 2003; Leone & Aronow, 1992; Petty, Brinol, & Tormala, 2002; Tesser, 1978). For example, measures of thought confidence and attitude confidence were significantly associated, indicating that the relationship between thought and attitude differs based on the confidence individuals' hold in their thoughts (Petty et al., 2002). Additionally, when individuals thought in a way that allowed them to become more confident in their attitude-related beliefs, thinking resulted in attitude polarization; however, when individuals thought in a way that undermined their confidence in their attitude-related beliefs, thinking resulted in attitude attenuation (Clarkson et al., 2011).

Furthermore, there is a relationship between beliefs and feelings (Zanna & Rempel, 1988). When conducting a self-validation analysis on emotions as a contributing factor of belief-confidence, researchers found that induced emotions (i.e., happy or sad) indeed influenced the confidence individuals had in their thoughts about a persuasive message they read (Brinol, Petty, & Barden, 2007). In a separate study, high need for cognition individuals were more likely than their low need for cognition counterparts to

generate attitude–consistent thoughts that, in turn, led to increasingly favorable attitudes about an attitude-object (Brinol, Petty, & Tormala, 2004).

Micro-Level Process. Why do belief consistency and belief confidence explain the relationship between opportunity for thought and attitude polarization? Looking into the micro-processes, there are three kinds of belief changes during mere-thought that allow individuals to make their beliefs more consistent with their initial attitudes: generating, reinterpreting, and discounting beliefs. During mere-thought, people generate new beliefs, reinterpret ambiguous existing beliefs, and discount inconsistent beliefs to make their beliefs increasingly consistent to their initial attitudes (for review of this literature, see Tesser, 1978 and Tesser et al., 1995).

For example, if individuals initially hold positive beliefs about the death penalty, asking them to list their thoughts about the death penalty may lead them to generate more beliefs supporting their initial attitudes (e.g., eye for an eye, appropriate punishment for the particular heinous crime). In a recent study, when participants generated more negative concerns compared to positive concerns, their attitudes toward a senior comprehensive exam became more negative (Petty et al., 2002). Other researchers have noted a relationship between thought and generation of new beliefs (Clary, Tesser, & Downing, 1978; Tesser & Cowan, 1975).

During mere-thought, people may reinterpret otherwise ambiguous beliefs. For example, audiences who hear a media report on a homicide might interpret evidence as suggesting murder if those audience members have a pro-capital punishment attitude. There is an association between thought and reinterpretation of ambiguous existing beliefs. For instance, Tesser and Cowan (1977) found that participants in a thought

condition had more polarized attitudes than did those in a distraction condition. Moreover, Tesser and Cowan (1977) also found that ambiguous adjectives were interpreted as positive when participants interacted with a likable partner and as negative when participants interacted with an unlikable partner. The results above demonstrate that people do, in fact, reinterpret ambiguous existing beliefs to make those thoughts more consistent with their initial attitudes.

Moreover, during mere-thought, people may discount inconsistent beliefs. For instance, audiences who hear a media report that a police officer shot a black suspect in self-defense may reject that idea if the audience thinks police are bigoted. There is evidence that when information is inconsistent with people's beliefs, individuals tend to ignore those facts to make their initial beliefs more consistent with the provided evidence (Lord, 1989; Miller, McHoskey, Bane, & Dowd, 1993). Chaiken and Yates (1985) reported that individuals with a high need for consistency (compared to those with a low need for consistency) had more refutational thoughts while thinking (i.e., listing their beliefs) about an issue. There is other evidence for a link between mere-thought and discounting of inconsistent beliefs (for review of the literature, see Tesser, 1978 and Tesser et al., 1995). There are, however, individual differences in cognition and motivation concerning mere-thought and attitude polarization (Brinol & Petty, 2004).

Individual Differences in Mere-Thought

As Leone (1989) hypothesized and supported, dogmatic individuals (i.e., whose belief system works to disregard inconsistent or threatening information) were more likely than non-dogmatic individuals to polarize their attitudes, maintain consistent beliefs, and be less likely to obtain inconsistent beliefs as opportunity for thought

increased (i.e., 45s vs. 90s). In addition, Leone, Taylor, and Adams (1991) established that as opportunity for thought with reality constraints (i.e., restriction enforced on beliefs) increased, dogmatic individuals compared to nondogmatic individuals demonstrated increased attitude *depolarization* (i.e., restriction on attitude polarization). There are, moreover, individual differences in cognitive motivation such as need for cognition (Cacioppo, Petty, Kao, & Rodriguez, 1986). Low need-for-cognition individuals' are more prone to access those beliefs that are consistent with their initial attitudes; however, in contrast, high need-for-cognition individuals' are more engaged in careful thought toward some attitude issue (Cacioppo et al., 1986). Leone (1994) found that as the opportunity for thought increased, beliefs consistency increased and attitudes became more polarized for low need-for-cognition individuals than for high need-for-cognition individuals (also see Leone & Ensley, 1986).

There is evidence of individual differences in mere-thought and attitude polarization. However, are there any other individual differences that might be relevant to this process? Self-monitoring may be another personality factor relevant to the effects of mere-thought.

Self-Monitoring Differences

Self-monitoring is a stable individual difference (Fuglestad & Snyder, 2009; Snyder, 1974). Self-monitoring is conceptualized as ways individuals present themselves to an audience and control how they express their behaviors during social situations (Fuglestad & Snyder, 2009; Snyder, 1974). There are two types of people in self-monitoring theory: high self-monitors and low self-monitors. In addition, there are five

conceptual dimensions in the self-monitoring construct (i.e., Snyder, 1979): motivation, attention, ability, use of ability, and behavior variation.

Motivation involves ways people are driven to represent themselves (Gangestad & Snyder, 2000). High self-monitors are concerned with social status in public settings. However, low self-monitors are concerned with personal compatibility in social settings. Attention concerns information to appropriately express oneself (Gangestad & Snyder, 2000). High self-monitors are aware of external cues and adjust accordingly based on their social situation (i.e., social comparison). Low self-monitors are more focused on internal cues in social situations. Ability involves the capacity to control and modify ways people present themselves (Gangestad & Snyder, 2000). In this case, high self-monitors have a well-developed ability to adjust to social situations, whereas the ability of low self-monitors is less developed.

Moreover, use of ability is determined by specific circumstances (Gangestad & Snyder, 2000). High self-monitors may engage in deceiving people by being friendly when in reality they dislike them (i.e., strategic self-presentation). Low self-monitors may rely more on self-verification in allowing others to know their true selves according to their personal beliefs' and feelings. Last, but not least, there are differences in behavioral variability/consistency (Gangestad & Snyder, 2000). High self-monitors adjust their behavior to different situations, in which they find themselves. However, low self-monitors value consistency across situations.

Self-Monitoring and Consistency Preferences. Two lines of self-monitoring research branch from the situational-specificity and cross-situational consistency of high self-monitors and low self-monitors, respectively. First, there is work on self-monitoring

and cognitive dissonance. Second, there is work on attitude-behavior consistency for high self-monitors and low self-monitors.

Self-monitoring can influence individuals' cognitive dissonance processes (i.e., conflicting thoughts). In one study, Snyder and Tanke (1976) established that low self-monitors who wrote a counter-attitudinal essay had greater cognitive dissonance (i.e., attitude-behavior inconsistency) compared to those who were high self-monitors and who wrote a counter-attitudinal essay. Debono and Edmonds (1989) found that self-monitoring moderated individuals' cognitive dissonance. When individuals wrote an essay that contradicted their own attitudes, low self-monitors felt greater cognitive dissonance than did high self-monitors. However, high self-monitors were more prone than low self-monitors to experience cognitive dissonance when their beliefs conflicted with their peers' beliefs.

Zanna, Olson, and Fazio (1980) found that low self-monitors manifested more attitude-behavior consistency than did high self-monitors when reporting past religious behaviors. Snyder and Swann (1976) provided evidence indicating a stronger covariation between attitudes and behavior for low self-monitors than for high self-monitors. In other words, consistency between attitudes and behavior was greater for individuals whose behavior is guided by information about inner states. Ajzen, Timko, and White (1982) also demonstrated a stronger attitude-behavioral intentions correlation for low self-monitors than for high self-monitors. In other words, low self-monitors were more likely than high self-monitors to act based on their attitudes (Ajzen et al., 1982). In sum, there are self-monitoring differences in the extent to which people are driven by consistency between attitudes and behavior (Fuglestad & Snyder, 2009; Snyder, 1974).

Hypotheses

Based on the research reviewed above, we derived the following hypotheses. First, mere-thought and self-monitoring will interactively influence attitude polarization. That is, the more individuals think about an issue (i.e., capital punishment), the more polarized their attitudes will become, but this effect will be more evident for low self-monitors than for high self-monitors. Second, the interactive effects of mere thought and self-monitoring on attitude polarization will be mediated by belief consistency and belief confidence. That is, after controlling for belief consistency and belief confidence, there will be no reliable interactive effects of mere thought and self-monitoring on attitude polarization.

Method

Participants

By using a pool of undergraduates from the Psychology Department at the University of North Florida, approximately 103 students were recruited through SONA, which is an online research management system. Students received extra credit in their courses for participation with their instructors' approval. There was no monetary compensation in this study. The only restriction on participants was that they had to be at least 18 years old.

In this sample, there were a total of 25 males and 78 females. An equal number of females and males were not essential for this study because sex was not used as a predictor variable (cf. Tesser, 1976; Tesser & Leone, 1977). Participants were between the ages of 18 and 59 years (M = 24.02; SD = 6.64). Participants in this sample were predominantly White/Caucasian (61.2 %). In addition, participants were 37.9% Independent, 35% Democrat, and 27.2% Republican in political affiliation. Most

participants identified themselves as either Agnostic/Atheist (25.2%), Protestant (24.3%), Other (23.3%), or Catholic (22.3%).

Data from two participants were not used in our analysis because one participant decided to leave her toddler outside the lab unattended, who began to loudly cry, and disturbed both the parent and another participant from taking our survey. For analyses involving number of beliefs generated during thought, data from 13 participants were not included because they failed to list their thoughts on our target issue (i.e., capital punishment). If participants' initial responses to the target issue (capital punishment) were extreme (i.e., 1 or 9) or neutral (i.e., 5) on our 1-9 scale, their data were not used in our analyses (n = 49). In previous studies, researchers have found that extreme initial attitudes represent ceiling effects on attitude change and neutral initial attitudes cannot be used to predict the direction of attitude change (Clarkson et al., 2011; Liberman & Chaiken, 1991). Participants were randomly assigned to one of two conditions: 60s or 180s. Participants completed a written informed consent document and were given an opportunity to ask questions before they had to sign and date a consent document. An extra copy was provided to participants to keep. Participants were assured that their responses would be anonymous so that they would respond genuinely. Before collecting data, an experimenter obtained approval from the Institutional Review Board (IRB). Participants were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2010).

Procedure

One of two experimenters (one female, one male) individually greeted participants and informed them that the purpose of the study was to assess attitudes and

beliefs about political issues. In addition, an experimenter told them that the purpose of the study was also to better understand differences between people in the ideas that they have about various political issues. In small groups of up to four individuals, participants were seated individually at computers in a laboratory. Participants were reminded that their participation was voluntary, they had the right to withdraw from the study at any time without penalty, and that their responses would remain anonymous. Before they took part in our experiment, participants read, signed, and dated a written informed consent document. After answering any questions participants had, an experimenter instructed them to begin our experiment that was administered using Media Lab.

Assessment of Initial Attitudes. Participants first read the instructions as follows:

> For this study, we are interested in creating a profile of students' attitudes toward political issues and investigating the reason why people hold certain beliefs about those issues. For the following section, please indicate your attitudes on the political issues presented. All responses will be anonymous. No identifying information including your name will be on the survey. Therefore, your answers cannot be traced back to you.

Participants responded to items about gun control, paid family leave, serving in Congress, federal elections, illegal drug use, substance control, the death penalty, prevention of illegal immigration, health care, and climate change. Participants expressed their attitudes toward each issue using a 9-point Likert-type scale with answer options ranging from *1 = Very Strongly Agree* to *9 = Very Strongly Disagree* and with *5* being *Neutral*.

Experimental Manipulation. After expressing their feelings about several political issues, participants read the following instructions:

> You just indicated your feelings toward these political issues. People hold different opinions. Therefore, we would like to gather some ideas on what students think about "the death penalty." We are now going to give you a chance to gather your thoughts about this particular issue. Concentrate all your thoughts on this issue during the time given. You might want to think about facts and arguments related to this issue. You might want to think about your own personal beliefs about this issue. Just think about this issue and continue to think until you are prompted by the computer to stop. In a moment, you will be given a certain amount of time to type any and all thoughts, feelings, and beliefs you have about this issue. You will not be penalized for typos or grammatical errors, so feel free to type as fast as you want. Please list one and only one separate thought on each line that you are given. When you are ready, press continue on the bottom right hand corner. Press ENTER after you list each thought (Leone, 1989).

Prior to the beginning of the study, participants were randomly assigned either 60 seconds or 180 seconds to list any and all thoughts, feelings, and beliefs about the particular target issue (the death penalty) until prompted by the computer to stop.

Assessment of Post-Thought Attitudes. As soon as the opportunity for thought ended, participants read the post-thought instruction as follows:

> Now that you have had time to gather your thoughts, we would like you to indicate how you now feel about the death penalty. Your opinion MAY OR MAY

NOT change over the course of a few moments. Using the following scale, please indicate again how you feel NOW about the death penalty (Leone, 1989).

After their thought listing task, participants again indicated their attitudes toward the death penalty on a single-item 9-point semantic differential scale with answer options ranging from *1 = Very Unfavorable* to *9 = Very Favorable* and with *5* being *Neutral*.

Attitude Change. For participants with initially favorable attitudes, polarization was calculated by subtracting pre-thought ratings (e.g., 6) from post-thought ratings (e.g., 7, 8, or 9). For participants with initially unfavorable attitudes, polarization was calculated by subtracting post-thought ratings (e.g., 1, 2, or 3) from pre-thought ratings (e.g., 4). For all participants, positive scores were indicative of polarization, scores of 0 were indicative of no change, and negative scores were indicative of depolarization.

Belief Consistency. Thought listing was also scored in order to measure belief consistency. Two independent raters examined each belief listed by participants and categorized those beliefs as favorable if the belief supported the death penalty, unfavorable if the belief refuted the death penalty, and neutral if the belief was ambiguous with respect to the death penalty. For participants who had an initial favorable attitude (e.g., +6) about the death penalty, favorable beliefs were considered as attitude consistent. For participants who had an initial unfavorable attitude (e.g., +3) about the death penalty, unfavorable beliefs were considered as attitude consistent. A total of belief consistency score was calculated by dividing the number of consistent beliefs a participant listed by the total number of beliefs listed by that participant. There was inter-rater reliability between both independent raters on both positive ($r = .94$, $p < .001$) and negative ($r = .96$, $p < .001$) beliefs listed by the participants.

Belief Confidence. Participants read the belief confidence instruction as follows: "Sometimes we may feel more or less confident in the beliefs we have. To better evaluate how confident you feel in your thoughts, please read the following questions carefully and choose the answers that best describe your confidence. Please read each question carefully as they may seem similar but are in fact different questions" (adopted by Clarkson et al., 2011). Participants indicated their confidence using a 9-point Likert-type scale with answer options ranging from *1 = Not At All Confident* to *9 = Very Confident* and with *5* being *Neutral*. Participants indicated their confidence in, certainty in, validity of, satisfaction with, and liking for their beliefs about the death penalty. Some sample items are as follows: "Overall, how much confidence do you have in your beliefs about the death penalty?" and "Overall, how certain are you of your beliefs about the death penalty?"

We created an overall index of belief confidence by summing the scores for response to all five items. In our study, a Cronbach's alpha of .90 was obtained for scores on the measure of belief confidence. There were internal consistency coefficients reported on other thought confidence measures ranging from $\alpha = .81$ to .89 (e.g., Brinol & Petty, 2003; Brinol et al., 2007; Brinol et al., 2004; Clarkson et al., 2011; Petty et al., 2002). Scores on measures of thought confidence have been found to be correlated with scores on measures of attitude change (Brinol & Petty, 2003). In addition, scores on measures of thought confidence have been found to mediate the connection between (a) the amount and valence of thought and (b) degree of persuasion (Petty et al., 2002).

Perceived Time Adequacy. We included a manipulation check to see if participants perceived the amount of time given for thought as we intended. Participants

were asked, "When you were listing your beliefs about the death penalty, how much time did you think you had to list your attitudes about the thought task?" The perceived adequacy of time measure (adopted by Clarkson et al., 2011) is one-item with a 3-point scale with answer options ranging from *1 = Little Amount of Time* to *3 = To Much Time* and with *2* being *Just About The Right Amount of Time.*

Self-Monitoring (Snyder, 1974). Participants responded to a 25-item scale that assessed high self-monitors and low self-monitors. Participants responded using a *True-False* answer format. Snyder (1979) developed the Self-Monitoring Scale to reflect five conceptual dimensions: (1) Motivation (e.g., "At parties and social gatherings, I do not attempt to do or say things that others will like"); (2) Attention (e.g., "When I am uncertain how to act in social situations, I look to the behavior of others for cues"); (3) Ability (e.g., "I can look anyone in the eye and tell a lie [if for a right end]"); (4) Use of Ability ("I may deceive people by being friendly when I really dislike them"); and (5) Behavior Variation (e.g., "In different situations and with different people, I often act like very different persons").

Approximately half of the items were worded such that an answer of *true* was indicative of high self-monitors. All answers were scored such that a "2" was assigned to a high self-monitoring response and a "1" was assigned to a low self-monitoring response. Scores were then summed for all 25 items. Participants were categorized as either high or low in self-monitoring based on a median split of the full range of scores.

In his original study, Snyder (1974) found that scores on the Self-Monitoring Scale were internally consistency (KR20 = .71) and consistent over time (test-retest reliability coefficient of .83). In previous studies, researchers have found that the Self-

Monitoring Scale scores are reliable and researchers have reported an adequate internal consistency ranging from .71 to .73 (e.g., Day, Schleicher, Unckless, & Hiller, 2002; Girvan, Weaver, & Snyder, 2010). In our study, a Cronbach's alpha of .82 was obtained for scores on the Self-Monitoring Scale.

Convergent validity occurs when different measures of the same construct produce similar assessments (Campbell & Fiske, 1959; Furr, 2011; Shadish, Cook, & Campbell, 2002). Convergent validity could be demonstrated with two or more self-report measures. Alternatively, convergent validity could be demonstrated with one self-report measure including measures of (a) behaviors, (b) peer ratings, or (c) known groups. Snyder and Gangestad (1986) found that scores on the Self-Monitoring Scale and scores on the Revised Self-Monitoring Scale are highly correlated. Both measures of the Self-Monitoring Scale and the Revised Self-Monitoring Scale were administered to 313 undergraduates in the University of Minnesota and a correlation of .52 with an estimated correction was found (Snyder & Gangestad, 1986).

In a recent study, Flynn, Reagans, Amanatullah, and Ames (2006) reported that scores on the 25-item Self-Monitoring Scale and scores on Need for Social Status were correlated. Relative to a group of undergraduate students, psychiatric patients had lower scores on the Self-Monitoring Scale (Snyder, 1974). However, compared to similar undergraduate groups, professional actors had higher scores on the Self-Monitoring Scale (Snyder, 1974).

Discriminant validity occurs when different measures of different construct do not produce similar assessments (Campbell & Fiske, 1959; Furr, 2011; Shadish, et al., 2002). Discriminant validity has been demonstrated for scores on the Self-Monitoring Scale.

Scores on this scale are not correlated substantially with scores on measures of the following constructs: need for approval, psychopathic deviancy, extraversion, Machiavellianism, locus of control, achievement anxiety test, inner-other directedness, intelligence, academic achievement, and social anxiety (Snyder, 1974; Snyder, 1979; Snyder & Monson, 1975).

Demographics. Finally, participants responded to a five-item basic demographics scale concerning their sex (*Female, Male*), age (*Fill-in-the-blank*), and ethnicity (*White/Caucasian, Black/African American, Asian/Pacific Islander, Hispanic/Latino, Multi-Ethnic or other*). Participants also responded to items on political affiliation (*Republican, Independent, Democrat*), and religious affiliation (*Catholic (e.g., Roman Catholic, Greek Orthodox, Russian Orthodox); Protestant (e.g., Baptist, Lutheran, Methodist, Episcopalian, Presbyterian, Mormon); Jewish (e.g., Orthodox, Reformed, Messianic); Muslim, Hindu, or Buddhist; Agnostic, Atheist; Other).* At the completion of the survey, undergraduates were thanked for their participation and then dismissed.

Results

Preliminary Analyses

Opportunity for thought (i.e., mere-thought) was the only experimentally-manipulated independent variable for this study. In this case, participants were randomly assigned to one of two conditions (i.e., 60 seconds vs. 180 seconds) as they listed their thoughts about the death penalty. An independent-samples *t*-test was conducted to compare the total number of beliefs in the two thought conditions. There was a significant difference in the total number of beliefs generated in the 60 second ($M = 3.84$, $SD = 3.36$) and 180 second ($M = 10.03$, $SD = 5.95$) conditions, $t(52) = -4.61$, $p < .001$.

Our results suggest that time to think has an effect on the total number of beliefs listed by participants. In short, our manipulation seemed to be effective.

Perceived adequacy of time (i.e., manipulation check) was measured for both thought conditions. A simple 2 (thought condition: 60s vs. 180s) x 3 (perceived adequacy of time: little amount of time, just about the right amount of time, too much time) chi-square analysis was conducted to check for differences between groups. In addition, we conducted chi-square tests for proportions as follow-up analyses. There was a reliable difference between thought conditions and perceived adequacy of time, χ^2 (2, N = 103) = 24.86, p = .001. Participants who indicated they had too little time were more often in the 60 second condition (78.79%) than in the 180 second condition (21.21%), χ^2 (1, N = 33) = 10.94, p = .009. Participants who indicated they had just about the right amount of time were just as likely to be in the 60 second condition (40.74%) and 180 second condition (59.26%), χ^2 (1, N = 54) = 1.85, p = .174. However, participants who indicated they had too much time were more often in the 180 second condition (93.75%) than in the 60 second condition (6.25%), χ^2 (1, N = 16) = 12.25, p = .005.

Self-monitoring is an individual difference that is a non-manipulated variable. There might be confounds between other variables and the variable of interest which is self-monitoring. Potential confounds between self-monitoring and sex have been found, such that high self-monitors are typically males and low self-monitors are typically females (Day et al., 2002). For this reason, in this study, we investigated participants' sex as a probable confound.

Self-monitoring (high vs. low) and sex (male vs. female) are both dichotomous variables. A Chi-Square analysis was performed to evaluate multicollinearity between

self-monitoring classifications and participants' reported biological sex. There was not a significant relationship between self-monitoring and sex, χ^2 (1, N = 54) < 1.00. Consequently, there were no confounds between sex and self-monitoring in our sample.

Main Analyses

Interactive Effect Analyses. Attitude polarization was the dependent variable in this study. It was predicted that mere-thought and self-monitoring will interactively influence attitude polarization. The interactive effects (prediction) were evaluated by running a 2 (high vs. low mere-thought) x 2 (high vs. low self-monitors) ANOVA for attitude polarization scores. There was a marginally reliable interaction between mere-thought and self-monitoring, $F(1,50) = 3.16$, $p = .082$. In order to find the foundation of this interaction, we conducted a *t*-test to compare the difference between low (60 seconds) and high (180 seconds) opportunity thought conditions for low self-monitors and for high self-monitors. There was a significant difference with low self-monitors in the 60 second (M = -0.43, SD = 1.60) compared to the 180 second (M = 0.67, SD = 1.37) conditions, $F(30) = 4.33$, $p = .046$, $\eta^2_{\text{semi-partial}} = 0.13$. As expected, low self-monitors experienced more attitude polarization as they thought longer about their attitudes toward the death penalty. There was no significant difference between the two thought conditions for high self-monitors, $F < 1.00$ (see figure 1).

Mediation Analyses. We hypothesized that the interactive effects of mere-thought and self-monitoring on attitude polarization would be mediated by belief-consistency and belief-confidence. In this case, the prediction to be evaluated was the robustness of an interactive effect after controlling for belief consistency and belief confidence. For this study, our predictor variables were mere-thought and self-

monitoring, our dependent variable was attitude polarization, and covariate variables were belief-consistency and belief confidence.

We first ran an ANCOVA to determine if the interactive effect of mere-thought and self-monitoring was still reliable after controlling belief-consistency on attitude polarization (We did not simultaneously use two covariates because some subjects provided information about their belief confidence but not on their particular beliefs. There was a statistically significant belief-consistency effect on attitude polarization scores, $F(1, 41) = 5.57$, $p = .023$. As evident by a positive correlation ($r = .39$, $p = .008$), attitude polarization increased as belief-consistency increased. However, there was not a statistically significant interaction between mere-thought (i.e., opportunity for thought) and self-monitoring, $F(1, 41) = 2.38$, $p = .131$. These results support our prediction that belief-consistency mediates the relationship between opportunity for thought and differences in self-monitoring on attitude polarization (see figure 2).

We also ran a second ANCOVA to determine if the interactive effect of mere-thought and self-monitoring was still reliable after controlling belief-confidence on attitude polarization. There was a statistically marginal effect on attitude polarization scores, $F(1, 49) = 3.88$, $p = .054$. As evident by a positive correlation ($r = .31$, $p = .025$), attitude polarization increased as belief-confidence increased. However, there was not a statistically significant interaction between mere-thought (i.e., opportunity for thought) and self-monitoring, $F(1, 49) = 2.49$, $p = .121$. Our results also supported our hypothesis that belief-confidence mediates the relationship between opportunity for thought and differences in self-monitoring on attitude polarization (see figure 3).

Ancillary Analyses

Effects of Perceived Time. Recall that there was a significant difference in the perceived adequacy of time across our two thought conditions. It may be that perceived time - rather than mere thought per se - could be related to attitude polarization. To evaluate this possibility, we conducted a one-way ANOVA. The predictor variable was perceived adequacy of time and the dependent variable was attitude polarization. There was no reliable effect of perceived time on attitude polarization, $F < 1.00$.

It is possible that there could be self-monitoring differences in perceptions of how much time participants had to think about the attitude issue (capital punishment). To test this possibility, we conducted a chi-square analysis using self-monitoring (high vs. low) and perceived time (little amount of time, just about the right amount of time, too much time). There was no reliable self-monitoring difference in the perceived adequacy of time, $\chi^2 (1, N = 54) = 2.68, p = .262$.

Initial Attitudes and Self-Monitoring. It is possible that there were self-monitoring differences in initial attitudes toward capital punishment. If so, then any subsequent attitude change might reflect differential regression to the mean. A *t*-test was therefore conducted to examine this possibility. The predictor variable was self-monitoring and the dependent variable was initial attitudes toward capital punishment. There were no reliable difference between high self-monitors versus low self-monitors on initial attitudes about capital punishment $t(52) = - 1.12, p = .269$.

Discussion

In this study, we examined the differences between high self-monitors and low self-monitors and opportunity for thought on attitude polarization. We reasoned that low self-monitors compared to high self-monitors will have more polarized attitudes when

giving them more time to think about a target issue. Our results were consistent with this hypothesis. Seminal studies have found that mere-thought often leads to attitude polarization (Tesser, 1978; Tesser et al., 1995). With this said, self-monitoring differences were obtained because there are two kinds of people that are driven by different things. Low self-monitors, relative to high self-monitors, are more concerned with their internal states such that their beliefs are influenced by consistency (Fuglestad & Snyder, 2010). Consistency is important in terms of attitude polarization because without consistency, initially favorable thoughts toward an attitude issue will not lead to more favorable attitudes, and initially unfavorable thoughts toward an attitude issue will not lead to more unfavorable attitudes following thought (Tesser, 1978; Tesser et al., 1995). In fact, we might see that with belief inconsistency, favorable attitudes become more unfavorable and unfavorable attitudes become more favorable (Clarkson et al., 2011). To some extent, that is what occurred in the present study for high self-monitors who had a longer time to think about capital punishment.

We also examined two mediation effects in our analyses. We wanted to see whether belief-consistency and/or belief-confidence would explain the relationship between opportunity for thought and self-monitoring on attitude polarization. Researchers have found that the mere-thought effect is mediated by these two factors: belief-consistency (Clarkson et al., 2011; Chaiken & Yates, 1985; Leone, 1984) and belief-confidence (Brinol & Petty, 2003; Clarkson et al., 2011; Leone & Aronow, 1992; Petty et al., 2002).

After controlling for belief-consistency, the interaction between opportunity for thought and self-monitoring was attenuated. That is, the relationship between mere-

thought, self-monitoring, and attitude polarization was partially mediated by belief-consistency (see also Clarkson el al., 2011). In our study, low self-monitors were apparently more likely than high self-monitors to generate attitude-consistent beliefs, which in turn resulted in attitude polarization following thought. Low self-monitors compared to high self-monitors are more concerned about consistency (Fuglestad & Snyder, 2010). Our results were consistent with this finding and were also consistent with other findings concerning individual differences in the mere-thought effect (Leone, 1989, 1994; Leone & Ensley, 1986; Leone et al., 1991).

After controlling for belief-confidence, the interaction between opportunity for thought and self-monitoring was attenuated. That is, belief-confidence partially mediated the relationship between mere-thought, self-monitoring, and attitude polarization (see also Clarkson et al., 2011). During the thought process in our study, low self-monitors, compared to high self-monitors, presumably felt more confident that they were correct about their beliefs toward an attitude object. There is evidence suggesting that low self-monitors are more influenced than are high self-monitors by internal states which includes their attitudes, emotions, and dispositions (Ajzen et al., 1982; Gangestad & Snyder, 2000). Our findings are consistent with this other finding about self-monitoring.

Limitations

Self-monitoring differences were measured rather than manipulated. When a predictor variable such as self-monitoring is measured, we cannot make causal inferences for this variable. That is, any design with non-manipulated predictor variables is correlational in nature (Shadish et al., 2002). There are two problems with correlational designs that prevent cause-and-effect inferences. First, we may have a problem with

directionality (Shadish et al., 2002). We cannot be sure which of two variables is a cause and which is an effect because we do not know which variable occurred first. For example, it is possible that self-monitoring propensities influenced attitude polarization, but it is also possible (although not probable) that the tendency to have polarized and/or non-polarized attitudes in general influenced people's self-perceptions as low or high self-monitors.

Second, we have a third variable problem (Shadish et al., 2002). Other variables (i.e., confounding variable) may serve as an alternative explanation for our results. That is, two things might be related and neither is the cause of the other.

One variable that might be confounded with both self-monitoring and the mere-thought effect is stable individual differences in private self-consciousness. Like low self-monitors, people high in private self-consciousness focus quite frequently on their inner states (Trapnell & Campbell, 1999). Thus, private self-consciousness (high versus low) might play a role in people's perceptions of themselves as low self-monitors versus high self-monitors. Private self-consciousness may also play a role in the extent to which attitude-supportive beliefs about an attitude object would be salient and thereby influence attitude polarization. Even though there is no known effect of self-consciousness on attitude polarization, there is an empirical relationship between self-consciousness and self-monitoring (Lennox and Wolfe, 1984). Stable individual differences in self-consciousness are a plausible alternative explanation for these findings in our study.

There are also threats to statistical validity. Statistical validity is the extent to which the conclusions drawn based on statistical analyses are in fact accurate and valid (Shadish et al., 2002). Approximately half of our initial sample was not used in our data

analysis because participants responded with extreme or neutral responses on the assessment of their initial attitudes about capital punishment. Attrition may have diminished our statistical power (Shadish et al., 2002). The potential loss may qualify the way in which the results of the mediational analyses are interpreted. From our current analyses, we concluded that the interactive effect of thought and self-monitoring was mediated by belief-consistency and belief-confidence because the *p* value associated with that interaction was no longer marginally reliable after controlling for these mediators. With an increased sample size and accompanying statistical power, however, this interactive effect may have remained reliable even after controlling for the covariates.

Future Directions

Differences between low and high self-monitors in the effect of mere-thought on attitude polarization were identified. It would be interesting to further investigate under what conditions might high self-monitors exhibit more attitude polarization than would low self-monitors. In a previous study on self-monitoring and cognitive dissonance, high self-monitors were more likely than low self-monitors to experience cognitive dissonance when their beliefs differed from their peer's beliefs (Debono & Edmonds, 1989). We would expect high self-monitors rather than low self-monitors to manifest more polarized attitudes under public settings during a specific social situation. For example, if during a presidential debate the crowd cheers for one of the candidates running for president, a high self-monitor would try to fit in with the crowd and strengthen their attitudes to be consistent with the norm.

Additionally, further research should investigate whether or not belief-consistency and belief-confidence processes and self-monitoring differences do in fact, hold for other

attitudes (i.e., target issue) such as same sex marriage or current political issues. This study only focused on the death penalty, but would we find the same outcome with a different targeted attitude issue? Does it make a difference if the topic was on the death penalty rather than same sex marriage (i.e., a more current political issue)?

Additional research should explore other personality/situational moderators between the mere-thought processes on attitude polarization. There are other individual differences already known to moderate the mere-thought effect such as dogmatism (Leone, 1989; Leone et al., 1991) and need-for-cognition (Cacioppo et al., 1986; Leone, 1994; Leone & Ensley, 1986). Another personality moderator might be preference for consistency (Cialdini, Trost, & Newsom, 1995). Some individuals may prefer consistency and others may not. High preference for consistency individuals will demonstrate more strengthened attitudes than would low preference for consistency individuals when thinking longer about an attitude issue. Another situational moderator might be when individuals have to defend their beliefs and others do not. Having to defend one's beliefs may act like a constraint on potential changes in beliefs. Constraints have been found to limit attitude polarization (Leone et al., 1991).

Practical Implications and Conclusions

It is important to understand the processes by which people come to hold extreme attitudes because extreme attitudes have consequences for real-world behavior. There is existing research in which the mere-thought paradigm has been applied to real world behavior. For example, Malamuth and Check (1981) found that the more males were exposed to a film (i.e., feature-length movies) portraying violent sexuality as positive, the more they accepted interpersonal violence against women. Assuming that increased

thought accompanied increased exposure, these participants had increasingly polarized attitudes about sexual violence. In a study by Munro and Ditto (1997), individuals preselected as high or low in prejudice toward homosexuals read a study supporting stereotypes of homosexuality and a study refuting stereotypes of homosexuality. Participants responded to the heterosexual attitudes toward homosexuality (HATH) scale. Participants with moderate views about homosexuality reported being more convinced (and more polarized) with research that was consistent with their attitude about homosexuality than with research that was inconsistent with their attitudes (Munro & Ditto, 1997). In other words, participants' attitudes polarized as they accepted attitude-consistent information and discounted attitude-inconsistent information.

Various people have attitudes toward political issues (i.e., abortion), but very few take the time or put in the effort to defend their attitudes or engage in the social movement of interest (McAdam, 1986). In a study by Kaysen and Stake (2001) on social movements, the extent of attitude polarization and salience of an attitude issue was measured to test abortion activism. As predicted, both attitude polarization and salience of beliefs predicted activism (i.e., pro-life or pro-choice). Participants who had more polarized attitudes and whose issue was more important to their political concerns reported being more engaged in the movement in the previous year or across their lifetime activism (Kaysen & Stake, 2001). In short, attitude polarization seems to be related to attitude-consistent behavior.

Just as mere-thought can sometime produce attitude polarization, mere-thought in other circumstances can lead to other depolarization. In a study by Leone and Aronow (1992), verbalizers who were in a process constraints condition (i.e., explaining the

derivation of beliefs about public speaking) were more likely than visualizers to experience little fear when actually speaking to a small group.

In conclusion, our findings demonstrated that there are self-monitoring differences in the extent to which thought leads to self-generated attitude change (i.e., attitude polarization). Other research summarized above shows that polarized attitudes can have a variety of actual consequences for individuals. More research is therefore called for to see if self-monitoring differences in the mere thought effect also have consequences for real-world behavior.

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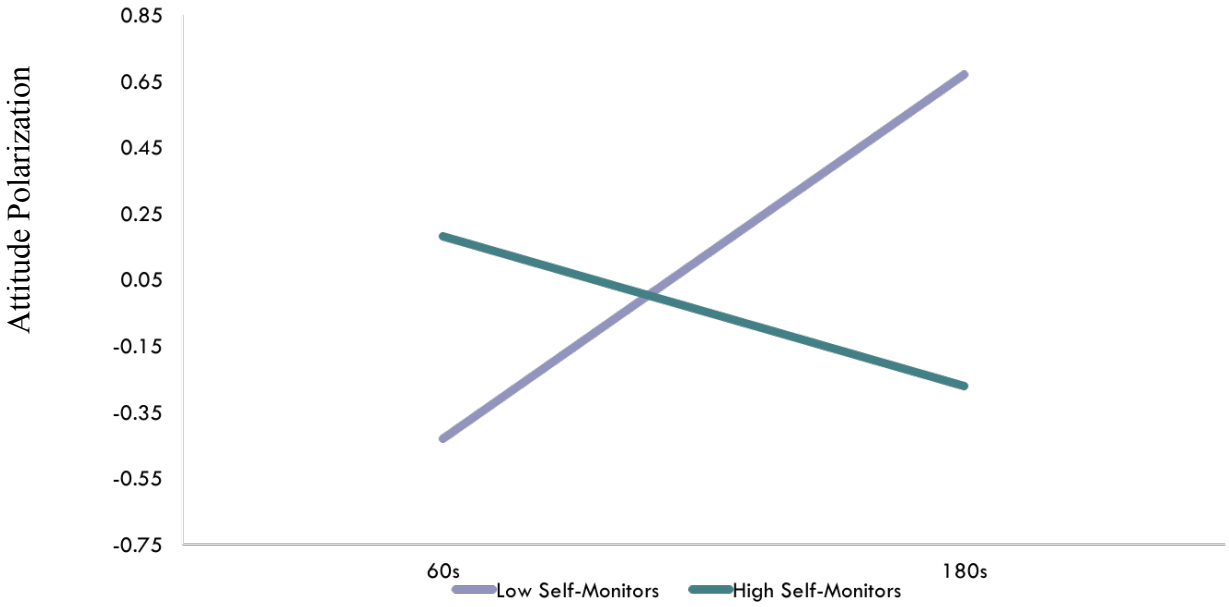
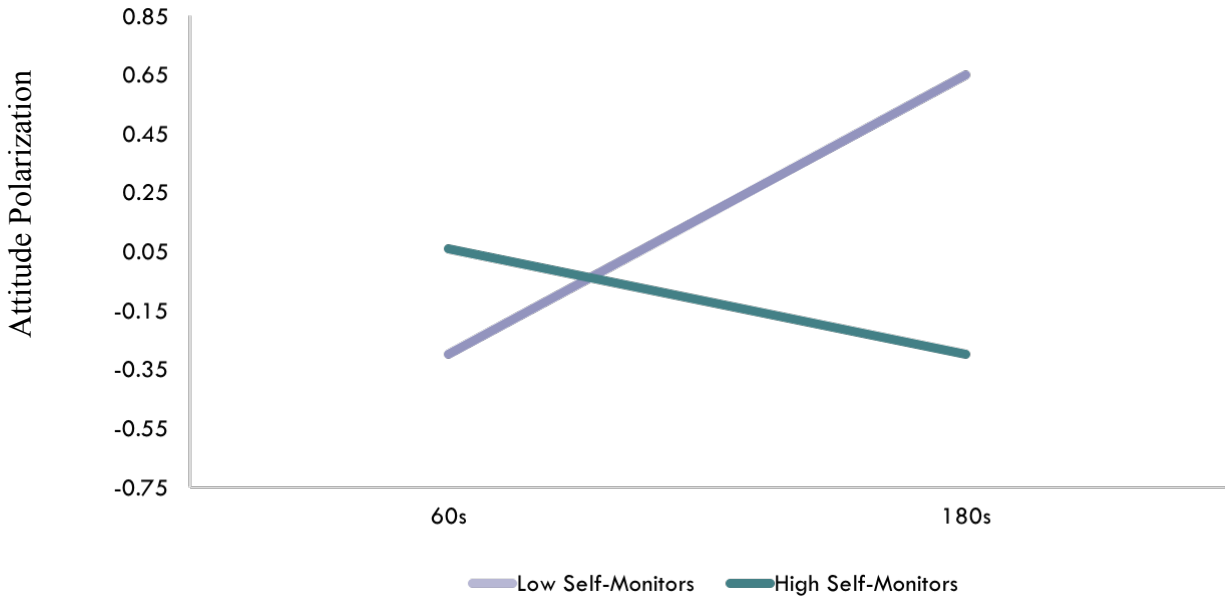


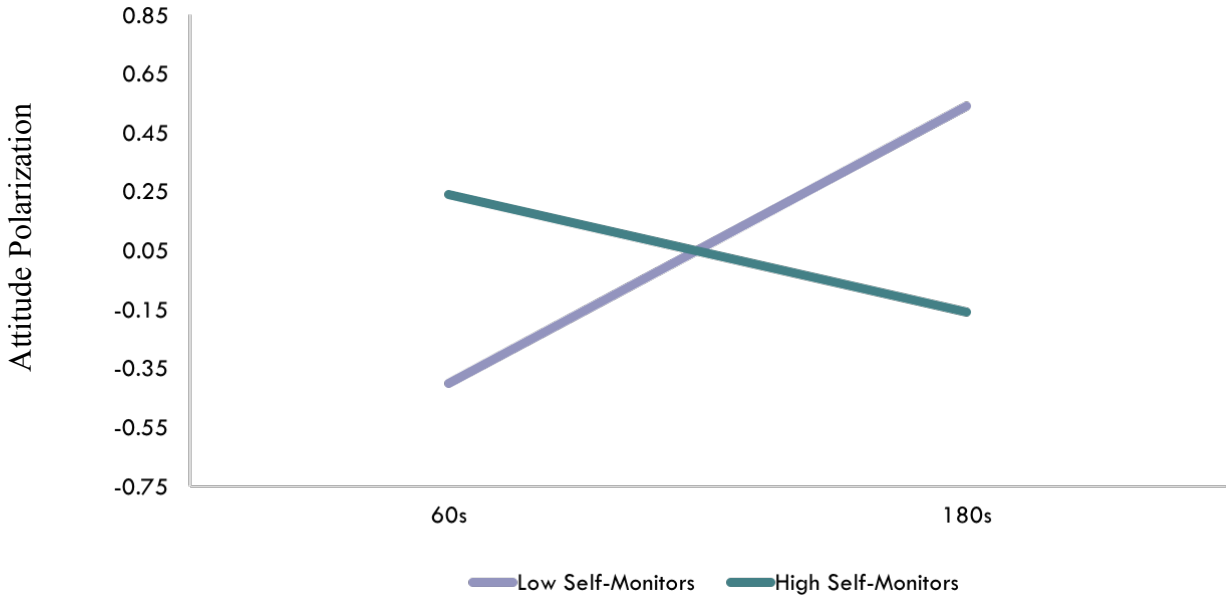
F (1, 50) = 3.16, p = .082

Figure 1. Mere-Thought Conditions and Self-Monitoring on Attitude Polarization



$F\ (1, 41) = 2.38, p = .131$

Figure 2. Mere-Thought Conditions and Self-Monitoring on Attitude Polarization Controlling for Belief-Consistency



$F\,(1, 49) = 2.49, p = .121$

Figure 3. Mere-Thought Conditions and Self-Monitoring on Attitude Polarization Controlling for Belief-Confidence

Curriculum Vita

Rosanna's parents were born . They conceived their second child and named her Rosanna Rodriguez. In 2009, Rosanna attended St. Thomas University for her undergraduate studies as a first-generation college student where she was recognized for academic excellence and placed under the Dean's list. During her four years of college, Rosanna spent most of her time volunteering for her community such as attending a nursing home twice each semester to help residents improve their health in Miami Gardens, Florida. She served as the vice president for St. Thomas University Psychology Club. She helped raise money for a non-profit organization against domestic violence and also helped raise money to help shelter homeless women and their infants. In 2013, Rosanna graduated Cum Laude with a Bachelor of Arts in Psychology and minor in Education. She went on to pursue her Master of Science in General Psychology at the University of North Florida. This is where her love for research grew stronger. She presented research findings at different annual conferences including the annual meetings of the Society of Southeastern Social Psychologists (SSSP) and conducted research under the supervision of Dr. Christopher Leone. Rosanna served as a teaching assistant for Introduction to Psychology and Personality courses. She was employed as an office assistant in the Psychology and Education Department. Her ambition is to continue her education and peruse her doctoral degree in Clinical Neuropsychology with the hopes of opening her own private practice.